(F) Any other method which the Administrator approves as establishing a reasonable likelihood that the critical maintenance will be performed in-use.

(iii) Visible signal systems used under paragraph (b)(6)(ii)(C) of this section are considered an element of design of the emission control system. Therefore, disabling, resetting, or otherwise rendering such signals inoperative without also performing the indicated maintenance procedure is a prohibited act under section 203(a)(3) of the Clean Air Act (42 U.S.C. 7522(a)(3)).

(b)(7) through (h) [Reserved]. For guidance see §86.094–25.

[62 FR 54725, Oct. 21, 1997]

§86.004–28 Compliance with emission standards.

Section 86.004–28 includes text that specifies requirements that differ from §86.094–28, §86.098–28, §86.000–28 or §86.001–28. Where a paragraph in §86.094–28, §86.098–28, §86.000–28 or §86.001–28 is identical and applicable to §86.004–28, this may be indicated by specifying the corresponding paragraph and the statement ''[Reserved]. For guidance see §86.094–28.'' or ''[Reserved]. For guidance see §86.098–28.'' or ''[Reserved]. For guidance see §86.000–28.'' or ''[Reserved]. For guidance see §86.001–28.''

(a)(1) through (a)(2) [Reserved. For guidance see §86.000–28.

(a)(3) [Reserved]. For guidance see §86.094–28.

(a)(4) introductory text [Reserved]. For guidance see §86.098–28.

(a)(4)(i) [Reserved]. For guidance see §86.000–28.

(a)(4)(i)(A) through (a)(4)(i)(B)(*2*)(*i*) [Reserved. For guidance see §86.094–28.

(a)(4)(i)(B)(*2*)(*ii*) [Reserved]. For guidance see §86.000–28.

(a)(4)(i)(B)(*2*)(*iii*) through (a)(4)(i)(B)(*2*)(*iv*) [Reserved]. For guidance see §86.094–28.

(a)(4)(i)(C) through (a)(4)(i)(D)(*2*) [Reserved]. For guidance see §86.098–28.

(a)(4)(ii)(A)(*1*) through (a)(4)(ii)(A)(*2*) [Reserved]. For guidance see §86.000–28.

(a)(4)(ii)(B) through (a)(4)(ii)(C) [Reserved]. For guidance see §86.098–28.

(a)(4)(iii) [Reserved]. For guidance see §86.000–28.

(a)(4)(iv) [Reserved]. For guidance see §86.094–28.

(a)(4)(v) [Reserved]. For guidance see §86.098–28.

(a)(5) through (a)(6) [Reserved]. For guidance see §86.094–28.

(a)(7) introductory text [Reserved]. For guidance see §86.098–28.

(a)(7)(i) [Reserved]. For guidance see §86.000–28.

(a)(7)(ii) [Reserved]. For guidance see §86.094–28.

(b)(1) This paragraph (b) applies to light-duty trucks.

(2) Each exhaust, evaporative and refueling emission standard (and family emission limits, as appropriate) of §86.004–9 applies to the emissions of vehicles for the appropriate useful life as defined in §§86.098–2 and 86.004–9.

(b)(3) through (b)(4)(i) [Reserved]. For guidance see §86.094–28.

(b)(4)(ii) through (b)(6) [Reserved]. For guidance see §86.000–28.

(b)(7)(i) through (b)(9) [Reserved]. For guidance see §86.001–28.

(c)(1) Paragraph (c) of this section applies to heavy-duty engines.

(2) The applicable exhaust emission standards (or family emission limits, as appropriate) for Otto-cycle engines and for diesel-cycle engines apply to the emissions of engines for their useful life.

(3) Since emission control efficiency generally decreases with the accumulation of service on the engine, deterioration factors will be used in combination with emission data engine test results as the basis for determining compliance with the standards.

(4)(i) Paragraph (c)(4) of this section describes the procedure for determining compliance of an engine with emission standards (or family emission limits, as appropriate), based on deterioration factors supplied by the manufacturer. Deterioration factors shall be established using applicable emissions test procedures. NO_X plus NMHC deterioration factors shall be established based on the sum of the pollutants. When establishing deterioration factors for NO_X plus NMHC, a negative deterioration (emissions decrease from the official exhaust emissions test result) for one pollutant may not offset deterioration of the other pollutant. Where negative deterioration occurs for NO_X and/or NMHC, the official exhaust emission test result shall be used

for purposes of determining the NO_X plus NMHC deterioration factor.

(ii) Separate exhaust emission deterioration factors, determined from tests of engines, subsystems, or components conducted by the manufacturer, shall be supplied for each engine-system combination. For Otto-cycle engines, separate factors shall be established for transient NMHC (NMHCE), CO, NO_X, NO_X plus NMHC, and idle CO, for those engines utilizing aftertreatment technology (e.g., catalytic converters). For diesel-cycle engines, separate factors shall be established for transient NMHC (NMHCE), CO, NO_X, NO_X plus NMHC and exhaust particulate. For diesel-cycle smoke testing, separate factors shall also be established for the acceleration mode (designated as ''A''), the lugging mode (designated as ''B''), and peak opacity (designated as ''C'').

(iii)(A) Paragraphs (c)(4)(iii)(A) (*1*) and (*2*) of this section apply to Otto-cycle HDEs.

(*1*) Otto-cycle HDEs not utilizing aftertreatment technology (e.g., catalytic converters). For transient NMHC (NMHCE), CO, NO_X, the official exhaust emission results for each emission data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(*2*) Otto-cycle HDEs utilizing aftertreatment technology (e.g., catalytic converters). For transient NMHC (NMHCE), CO, NO_X, and for idle CO, the official exhaust emission results for each emission data engine at the selected test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(B) Paragraph (c)(4)(iii)(B) of this section applies to diesel-cycle HDEs.

(*1*) Diesel-cycle HDEs not utilizing aftertreatment technology (e.g., particulate traps). For transient NMHC (NMHCE), CO, NO_X, NO_X plus NMHC, and exhaust particulate, the official exhaust emission results for each emission data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(*2*) Diesel-cycle HDEs utilizing aftertreatment technology (e.g., particulate traps). For transient NMHC (NMHCE), CO, NO_X, NO_X plus NMHC, and exhaust particulate, the official exhaust emission results for each emission data engine at the selected test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(*3*) Diesel-cycle HDEs only. For acceleration smoke (''A''), lugging smoke (''B''), and peak smoke (''C''), the official exhaust emission results for each emission data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(iv) The emission values to compare with the standards (or family emission limits, as appropriate) shall be the adjusted emission values of paragraph (c)(4)(iii) of this section, rounded to the same number of significant figures as contained in the applicable standard in accordance with ASTM E 29–93a (as referenced in § 86.094–28 (a)(4)(i)(B)(2)(ii)), for each emission data engine.

(*5*) and (*6*) [Reserved]

(*7*) Every test engine of an engine family must comply with all applicable standards (or family emission limits, as appropriate), as determined in paragraph (c)(4)(iv) of this section, before any engine in that family will be certified.

(*8*) For the purposes of setting an NMHC plus NO_x certification level or FEL for a diesel-fueled engine family, the manufacturer may use one of the following options for the determination of NMHC for an engine family. The manufacturer must declare which option is used in its application for certification of that engine family.

(i) THC may be used in lieu of NMHC for the standards set forth in § 86.004–11.

(ii) The manufacturer may choose its own method to analyze methane with prior approval of the Administrator.

(iii) The manufacturer may assume that two percent of the measured THC is methane (NMHC =0.98 × THC).

(d)(1) Paragraph (d) of this section applies to heavy-duty vehicles equipped with gasoline-fueled or methanol-fueled engines.

(2) The applicable evaporative emission standards in this subpart apply to the emissions of vehicles for their useful life.

(3)(i) For vehicles with a GVWR of up to 26,000 pounds, because it is expected that emission control efficiency will change during the useful life of the vehicle, an evaporative emission deterioration factor shall be determined from the testing described in §86.098–23(b)(3) for each evaporative emission family-evaporative emission control system combination to indicate the evaporative emission control system deterioration during the useful life of the vehicle (minimum 50,000 miles). The factor shall be established to a minimum of two places to the right of the decimal.

(ii) For vehicles with a GVWR of greater than 26,000 pounds, because it is expected that emission control efficiency will change during the useful life of the vehicle, each manufacturer's statement as required in §86.098–23(b)(4)(ii) shall include, in accordance with good engineering practice, consideration of control system deterioration.

(4) The evaporative emission test results, if any, shall be adjusted by the addition of the appropriate deterioration factor, provided that if the deterioration factor as computed in paragraph (d)(3) of this section is less than zero, that deterioration factor shall be zero for the purposes of this paragraph.

(5) The emission level to compare with the standard shall be the adjusted emission level of paragraph (d)(4) of this section. Before any emission value is compared with the standard, it shall be rounded, in accordance with ASTM E 29–93a (as referenced in §86.094–28 (a)(4)(i)(B)(2)(ii)), to two significant figures. The rounded emission values may not exceed the standard.

(6) Every test vehicle of an evaporative emission family must comply with the evaporative emission standard, as determined in paragraph (d)(5) of this section, before any vehicle in that family may be certified.

(e) [Reserved]

(f) through (g)(3) through [Reserved]. For guidance see §86.001–28.

(g)(4) Vehicles certified to the refueling emission standard under this provision shall not be counted in the sales percentage compliance determinations for the 2004, 2005 and subsequent model years.

(h) [Reserved]. For guidance see §86.001–28.

[61 FR 54890, Oct. 22, 1996, as amended at 62 FR 54726, Oct. 21, 1997]

§86.004–30 Certification.

Section 86.004–30 includes text that specifies requirements that differ from §§86.094–30, 86.095–30, 86.096–30, 86.098–30 or 86.001–30. Where a paragraph in §86.094–30, §86.095–30, §86.096–30, §86.098–30 or §86.001–30 is identical and applicable to §86.004–30, this may be indicated by specifying the corresponding paragraph and the statement ''[Reserved]. For guidance see §86.094–30.'' or ''[Reserved]. For guidance see §86.095–30.'' or ''[Reserved]. For guidance see §86.096–30.'' or ''[Reserved]. For guidance see §86.098–30.'' or ''[Reserved]. For guidance see §86.001–30.''.

(a)(1) and (a)(2) [Reserved]. For guidance see §86.094–30.

(a)(3)(i) One such certificate will be issued for each engine family. For gasoline-fueled and methanol-fueled light-duty vehicles and light-duty trucks, and petroleum-fueled diesel cycle light-duty vehicles and light-duty trucks not certified under §86.098–28(g), one such certificate will be issued for each engine family-evaporative/refueling emission family combination. Each certificate will certify compliance with no more than one set of in-use and certification standards (or family emission limits, as appropriate).

(ii) For gasoline-fueled and methanol fueled heavy-duty vehicles, one such certificate will be issued for each manufacturer and will certify compliance for those vehicles previously identified in that manufacturer's statement(s) of